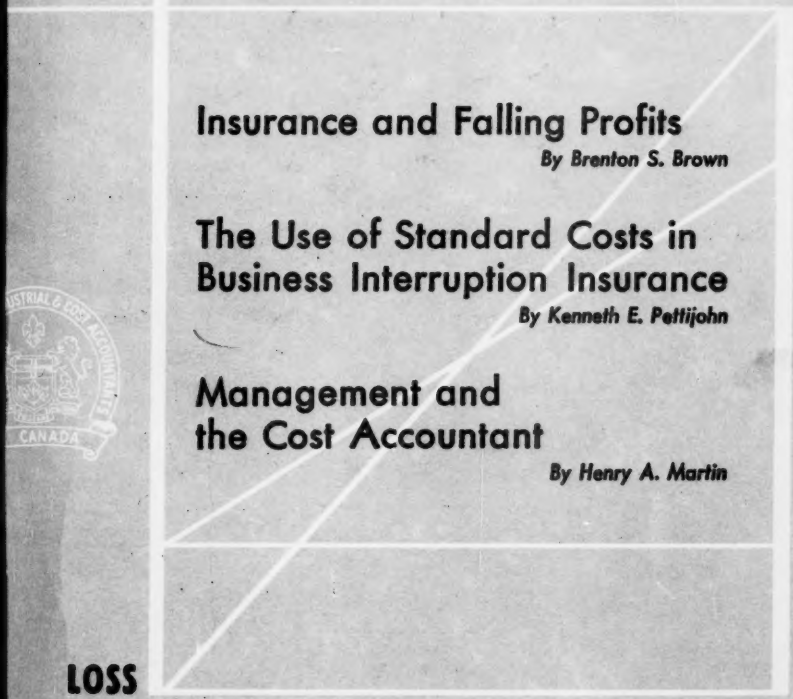
COST AND MANAGEMENT



Insurance and Falling Profits

By Brenton S. Brown

The Use of Standard Costs in Business Interruption Insurance

By Kenneth E. Pettijohn

Management and the Cost Accountant

By Henry A. Martin

Official Journal of

The Society of Industrial and Cost Accountants of Canada

January, 1955

MANAGEMENT NOTE

MARKETING COSTS

—Based on the surveys which have been carried out since the last war, the U.S. Department of Commerce believes it has firmly established the fact that the use of distribution cost analysis presents an opportunity for increasing efficiency and reducing **marketing** costs, which is just as important as all the work done in the past quarter century on reducing **factory** costs.

—These findings are just as valid on the Canadian scene.

—In instances where proper analysis and regulation of marketing costs has been applied, the return invariably has been great and the effort required small.

—There is a real opportunity for Canadian companies to take advantage of this comparatively untouched field for increasing profits.

—*A word of warning*—

Full advantage of this situation may only be gained by those companies whose top management have a real desire to seek out facts and have the courage to follow where they lead . . . any other attitude will jeopardize the results.

It deserves your investigation

J. EDGAR DION

CONSULTING MANAGEMENT ENGINEERS

4643 SHERBROOKE STREET WEST — MONTREAL 6, CANADA
GLENVIEW 1428

Your inquiries are invited—No obligation naturally.

2699
9853
new

Cost and Management

VOL. XXIX JANUARY No. 1

INSURANCE AND FALLING PROFITS
By Brenton S. Brown 13

A native of Vancouver, Mr. Brown graduated in Engineering from the University of British Columbia in 1933. He was in the mining business until the Second World War. During the war he served for five years with the Royal Canadian Engineers. On his return in 1945, he was appointed vice-president of Parsons Brown Limited; and was made president in 1953. Mr. Brown is a member of the Vancouver Library Board and is honorary secretary of the Vancouver Board of Trade. This paper was presented at the 1954 annual conference of the S.I.C.A. of British Columbia.

THE USE OF STANDARD COSTS IN BUSINESS INTERRUPTION INSURANCE
By Kenneth E. Pettijohn 21

A practising public accountant in Minneapolis, Minn., Mr. Pettijohn is a Director of the Twin Cities Chapter of the National Association of Cost Accountants. He is a member of the Minnesota Society of Certified Public Accountants, the American Institute of Accountants, the American Accounting Association, the American Management Association, and the American Institute of Management. Mr. Pettijohn served in the U.S. Air Force from 1942-45, and he holds a reserve commission as Lieutenant-Colonel. He commenced practice as a Certified Public Accountant in 1950.

MANAGEMENT AND THE COST ACCOUNTANT
By Henry A. Martin 30

Mr. Martin is a Management Consultant with Henry A. Martin Limited, Toronto. This interesting paper was delivered at the September 1954 meeting of the Niagara Peninsula Chapter of the Society of Industrial and Cost Accountants. In November of this year Mr. Martin addressed the Grand River Chapter of the S.I.C.A. on "Profitable Use of Cost Consultants".

REGULAR DEPARTMENTS

EDITORIAL COMMENT 2
C. & M. ROUNDUP 7
BOOKS IN REVIEW 10
STUDENT SECTION 37

Published Monthly by the
SOCIETY OF INDUSTRIAL AND COST ACCOUNTANTS OF CANADA
Incorporated 1920
Editorial and Business Offices: 66 King St. East, Hamilton, Ontario
J. N. Allan, R.I.A., Secretary-Manager and Editor

Subscription price to non-members, $5.00 per year. Single copies, 50 cents. Members desiring five copies or more of a single issue, may obtain them at 25 cents. Opinions expressed by articles and comment are not necessarily endorsed by the Society of Industrial and Cost Accountants.

Authorized as second class mail, Post Office Department, Ottawa.

Editorial Comment . . .

THE CANADIAN INSTITUTE OF CHARTERED ACCOUNTANTS' ANNUAL REPORT, 1954

This year's annual report of the senior accounting body in Canada is of particular significance for our Society for several reasons.

The committee on co-operation with other accounting bodies in its report dealing with "the broad question of co-operation with other accounting bodies" lists the Society of Industrial and Cost Accountants in the first place among the accounting bodies with which co-operation might be possible.

Among the conclusions reached by the committee was:

"That areas of mutual interest existed in the field of education and examinations. It was recognized that the field of education included post-graduate work."

It was the committee's opinion:

"that the Society of Industrial and Cost Accountants, organized on a pattern very similar to the Canadian Institute of Chartered Accountants, should receive particular attention . . . "

The committee reports that in conversations with the permanent secretary of our Society:

"a satisfactory relationship has been established and that areas of co-operation can be developed with our Society with mutual benefit to it and to the Canadian Institute of Chartered Accountants."

In reporting on the possibilities of co-operation with the different universities:

"it was evident . . . that the universities would welcome any leadership which the profession could give in developing accounting instruction on sound lines.

"It was accepted that, while many courses of instruction were offered, particularly in the earlier years, many different courses covered the same basic material."

The committee was of the opinion:

"that properly to function as a leader in accounting thought in Canada, the Institute should, and must, offer some tangible evidence of its interests in fields of accounting education other than that covered under its present educational and examinational procedures."

The committee recommended that it be empowered to convene:

"a meeting representative of the accounting bodies for the purpose of ascertaining the potentialities which may exist for co-operation in the field of accounting instruction."

Education for industrial accounting and management was, and is, and will be, one of the main aims and goals of our Society. The progress we have made from small beginnings in this field is something of which we can be justly proud and apparently an achievement which is

becoming more generally recognized in the profession and by the interested general public.

It would be most desirable if the basic instruction in accounting, commercial law, business mathematics and, if desirable, economics and even auditing fundamentals, could be made uniform to such an extent that the successful completion of courses as certified by the passing of proper uniform examinations could be acknowledged mutually by the various accounting bodies.

This development could easily lead to a better definition of the areas of special interest and endeavour for the various accounting bodies. This, again, would be helpful in developing the research areas and projects which would be most suitable for each of the accounting bodies and would avoid the overlapping which at present could occur in spite of the informal contacts which already exist. Overlapping is perhaps not as dangerous as the complete lack of coverage of certain fields brought about by the lack of co-ordination in the efforts of the various bodies.

The committee on co-operation with other accounting bodies under the chairmanship of Mr. W. J. Macdonald, the past president of the Canadian Institute, certainly deserves recognition and sincere praise for its work in the past year and its notable achievements presented in its report. The 1954-55 committee is under the chairmanship of the newly elected Canadian president, Mr. J. Grant Glassco of Toronto, whom we can fortunately also claim as a member of our Society. This, we hope, will augur well for the continuation of the promising co-operation between the Canadian Institute and our Society.

The annual report also confirms the appointment of Professor Macpherson of Queen's University as Research Director. The council expects that this appointment will make possible the completion of the revision of the publication on accounting terminology, a publication which will be welcomed far beyond the ranks of chartered accountants alone. The appointment of the research director by the Canadian Institute parallels a similar move in our Society, i.e., the appointment of Dr. Calvin Potter as Director of our Educational Foundation. With Dr. Potter's chartered accountant background, one may expect a close co-operation between the two bodies in the research field.

Let's look at another sub-committee's report, the one on a survey of "field of studies" and "methods of examination". This survey was directed to desirable changes in the field of chartered accountancy students' courses and the methods of examination. It was broken down into "Field of Studies", divided into (1) knowledge requirements and (2) practical experience requirements and "Methods of Examination", broken down into (3) extent to which written examinations should be used and (4) possible improvements to methods of examinations. As our Society faces almost the same problems as the Chartered Account-

ants, we can derive a great deal of benefit from the results of the survey. Although the report, submitted over the signature of the sub-committee's chairman, Mr. D. J. Kelsey, deserves certainly to be read in full, some of the opinions expressed should be reported for the benefit of our members.

It is not surprising that the Chartered Accountants (122 in number) who received the questionnaire showed differing concepts of the function of the professional training given by the Institute.

The group which wished to add detailed studies in technical subjects appeared to view the chartered accountant training as "directed largely to the production of accountants qualified either to assume responsible commercial posts or to give advice in the specialized fields of industrial organization, systems, and the like." The group did not indicate what cuts could be made in the present courses in order to make a place for a comprehensive coverage of the additional subjects.

Another group came to the conclusion that sight of the fact must not be lost "that the basic work of the professional accountant still remains to be done and it is not believed necessary to train all chartered accountants to perform services in all the fields that are open at the present time."

A third group emphasized attention to academic subjects, e.g., economics, statistics and principles of law, at the expense of narrowly technical ones. The belief was expressed "that it is easy for a chartered accountant to make up a possible deficiency in his knowledge of accounting without further instruction, but that it is not so easy for him to realize that other deficiencies may exist, or for him to deal with them unaided." This statement could also apply to the industrial accountant.

The maturing influence of a university education was stressed and the belief expressed that such an education is desirable for a chartered accountant and "will in time become a necessity".

The committee expressed the opinion that an integration of the present course with a broad university course could achieve the objectives of two of the three groups into which the answers could be broadly classified. The provision of facilities for post-graduate studies in specialized fields of the profession would largely achieve the objectives of the first group.

The subjects of cost accounting and budgetary control came under critical review, ending with the statement "that students often seem to lack a clear understanding of the physical happenings and facts which, as accountants, they are attempting to portray in figures."

As to the form of examinations, agreement exists "that uniform examinations are desirable". The report states "that although the final level of attainment is the same in all Provinces, the course routes travelled are not." This reduces the acceptance of intermediate examinations.

"Economics was the principal subject suggested as an addition to those covered by uniform examination."

In the answers to the questions "what improvement, if any, should be made, or considered for the future, in the methods of examination adopted for the uniform examinations of the provincial Institutes?" an experiment of introducing one examination with virtually no time limit is suggested.

Further suggestions were for an experiment of stiffening one exam and permitting the candidate to use specified reference works while writing, and also, in a limited way with true or false or objective-type questions.

We do not doubt that this very commendable effort of the Canadian Institute's sub-committee will be very closely studied by the educational committees of our Society and will no doubt assist them in clarifying many of the burning problems with which our Society's educational effort is confronted.

The change in emphasis in the programme of the annual meeting of the Canadian Institute deserves some mentioning. It was stated that 43% of the members of the Institute are employed outside the field of public practice and, in recognition of this fact, the programme for the technical sessions of the annual meeting was equally beamed to these members of the Institute as to those practising public accountancy.

Altogether, the annual report witnesses a vigorous year of fruit-bearing activities on the road to further achievements of the accountancy profession in Canada.

PAYNE, PATTON & PUGSLEY
CHARTERED ACCOUNTANTS
Gordon S. J. Payne, C.A. Donald R. Patton, C.A.
Philip T. R. Pugsley, C.A.
Suite 14, The Linton,
1509 Sherbrooke St. West Montreal, Que.

GENERAL AND COST ACCOUNTANT
Fully trained and experienced in all phases of general accounting including budgetary control. Practical experience in costing and cost analysis. Familiar with job, process and standard cost systems. 7 years general member of S.I.C.A. Single. Wishes to relocate in medium size business or public accountant's office anywhere. If desired, would consider investing money in the business.
Box 45, Cost and Management
66 King Street East Hamilton, Ontario

Any way you figure—

it's simple! *it's* MARCHANT

"I learned to operate my Marchant in less than an hour ...and soon took over the heaviest figuring in our office."

Whatever your figurework requirements, there's a Marchant exactly suited to your needs ... and the cost is soon repaid in hours saved. The Marchant Man near you will be happy to show by an actual run on your own work that Marchant's the answer ... *any way you figure!*

"Marchant gives me calculating speed up to twice that of other calculators. The work really rolls out."

"Dollar-for-dollar, I've found that Marchant tops them all for time-saving, built-in automatic features, and guaranteed accuracy control."

MARCHANT AMERICA'S FIRST Calculators

SEND THIS COUPON

Just mail this coupon with your business letterhead to get your free ... E2

Index to Modern Figuring Methods . . . ☐

Descriptive Literature about the FIGUREMATIC ☐

MARCHANT CALCULATORS, LIMITED, 26 DUNCAN ST., TORONTO 2B, ONT.

Sales and Service Throughout Canada

"The World's Finest and Fastest Calculator"

C & M Round-Up . . .

By N. R. Barfoot, R.I.A.

Business Outlook for 1955

A recent poll of Canadian businessmen about the business world in 1955, shows percentage reply returns as follows:

	At About 1954 Level	Decrease	Increase
Industrial Production	61%	20%	17%
Employment	62%	20%	15%
Sales	35%	11%	48%
Consumer Prices	68%	15%	15%
Salaries and Wages	50%	5%	45%
Profits	52%	16%	12%
Capital Expenditure	50%	19%	25%

What do you think?

What About the Next Ten Years?

A new study of economic conditions in the U.S. by government specialists shows some interesting results. This study provides food for thought about Canada in ten years. What will be the Canadian economic outlook in 1965, if for example, it merely matches the predicted growth pattern of the U.S.?

Population up 3.5 million — 15 million now.

Productivity up 3½% per year.

Prices will remain steady.

Gross national product of 36 billions — 24 billions, in 1954.

Consumer spending will rise almost 60% in constant dollars.

New plant and equipment spending would rise by 60% in 1965 or 8 billions compared to 5 billions in 1954.

Housing will be at the rate of 150,000 units per year— 100,000 in 1954.

Government spending — 5 billions compared to the present 4.4.

Most economists feel the rate of growth in Canada will be higher than in the maturing economy to our south. For example, it is estimated that G.N.P. will be closer to 43 billions in 1965 than 36.

Agricultural Economics

A quick survey of the national farm economics for the last year shows:

Cash income — 2.5 billions.

Net income for living costs and capital improvements, 1.1 billion.

Cash operating expenses totalled 1.4 billions made up of:

Feed and Seed	250 millions
Taxes, Rents, Interest	250 millions
Machinery, Operation and Repairs	200 millions
Depreciation	200 millions
Hired Labour Wages	150 millions
Truck and Auto Operation Expenses	100 millions
Building Repairs	70 millions
Miscellaneous Other	60 millions
Fertilizers	50 millions
Fruit and Vegetable Supplies	35 millions

Ontario Development

A few facts about the activities of the 5 million people in Ontario in the past year may be interesting:

632,000 people were employed in 13,400 factories which produced 8.2 billions in goods. 2 billion was spent in 1954 on new capital expansion.

835 millions in agricultural products came from Ontario farms. There is 3 billions of capital investment on these farms. One out of every 4 plants in Ontario is engaged in processing farm products.

460 millions was the output value of mining enterprises in Ontario. Biggest production was iron ore — 2.9 million tons, value 2.1 million and nickel 144,000 tons, value 161 millions. In the non-metallic field 741,000 tons of salt with a value of 4 millions was the leader. Four millions of natural gas was sold. Seventy-three millions worth of structural materials was produced.

343 millions of pulp and paper was produced in 44 factories employing 19,000 people.

225 millions was received from tourists.

Progress?

974 millions of electrical goods were produced last year in 422 plants employing 77,000 people, but there are still —

1,207,000 houses without phones.

3,000,000 Canadian homes have no T-V sets.

2,788,000 electric sewing machines are needed.

1,206,000 people could use an electric refrigerator.

1,547,000 homes have no electric stove.

306,000 homes have no electric lighting.

1,893,000 vacuum cleaners could be used.

3,560,000 homes are minus home freezers.

Apparently there are a few further steps to be taken in this age of electric power.

Metropolitan Area

Canada's first experiment in this solution to growth problem, is Metropolitan Toronto.

The story of this might be interesting.

In 1834 with a population of 9,254 Toronto was incorporated. During the ensuing years much territory was urbanized and annexed periodically.

Since 1912, some 12 suburbs sprang up adjacent to Toronto, some wholly residential, some industrial.

Financing difficulties arose, due mainly to disproportion between industrial and residential tax income in certain areas.

Provision for public services became a major headache particularly in the last few years.

As a result of much study the Ontario legislature passed a bill to provide for the Federation of the Municipalities in the Toronto Metropolitan Area for certain financial and other purposes.

This bill is unique — the individual suburbs retain their autonomy in certain fields but the Metropolitan government assumes the responsibility for certain services required by the whole area.

Thirteen municipalities make up Metropolitan Toronto.

Council is composed of 25 members—a full time Chairman, the head of the elected Council in each separate municipality. Two members of the Control Board of Toronto and the Alderman registering the greatest number of votes in each of the 9 wards of Toronto.

Some of the responsibilities of the Metro. council are sewage disposal; all capital borrowing; water supply; statutory welfare services. Education is under the Metro. School Board, although day-to-day management is under local board jurisdiction.

Responsibilities of the local councils are fire and police protection; distribution and sale of electric power; public libraries and the direct levy and collection of Taxes.

Insurance — An Export Business

Insurance business in force outside Canada by Canadian firms in 1938 — 3,126 millions. In 1953 — 6,554 millions.

Net premium income 119 millions in 1938, 213 millions in 1953.

Policy value written in 1938, 256 millions — in 1953, 842 millions.

An average of 41c of every dollar of premium income received by Canadian Life Insurance came from policy holders beyond our borders.

The U.S. and United Kingdom are the two biggest export markets, although current booms in insurance sales are in effect in the West Indies and South Africa.

The reasons: Canadian prestige as a nation; more active sales methods than foreign competitors, and no policy holder in a Canadian company has ever lost a dollar through non-payment of death or maturity benefit.

Books in Review . . .

By Mary Draper, B.A.

PRIVATE ENTERPRISE AND PUBLIC POLICY

By Melvin Anshen, Carnegie Institute of Technology, and Francis D. Wormuth, University of Utah. The Macmillan Company, New York, 1954. Published simultaneously in Canada. Pp. 742.

This comprehensive text on economics from the political viewpoint, covers the important subjects of free enterprise, public corporations, and the effects of government, its policies, actions and restrictions upon private enterprise.

The book is divided into four major sections — Introduction, Techniques of Government Action, Public Policy in Special Areas, and Administrative Problems In the first of these, the discussion covers background, constitutional principles, and the functions of the various governmental agencies. Under Government Action are chapters on Antitrust laws, trade regulation, incorporation and control of securities, control of rates, prices and wages, governmental benefits including copyrights, patents, loans, and federal insurance, taxation, governmental operations and business self-government.

The special areas of public policy explored in detail in this book include public utilities, transportation and communication industries, finance, agriculture, war economy, economic depression, labour, protection, and industrial relations.

Case studies comprise the fourth section of the book. These include cases in regulatory policies, covering such diversified problems as certification of air carriers, disposal of aluminum plants, problems in antitrust operations and the small business legislation during the second world war. Cases illustrating the effect of government regulation on the fluid milk industry, bituminous coal industry, and glass container industry are also included, as are several cases concerning patents.

In a final chapter the author discusses planning, in terms of the past, present and future. He includes the laissez faire method of the early days, the growth and various stages of planning, planning boards and departments, and the literature of planning.

The book includes a table of the cases referred to, as well as a general index and a list of reading references is appended to each chapter. For the student interested in the part played by government in business and industry under the democratic free enterprise system, this book is an invaluable guide. For the Canadian student its uses are somewhat restricted by its specific application to United States laws and practice, but the general exposition and the discussion of many questions concerning the relationship of government to industry and the effects of restriction, make it a text of value to any student of business, economics or industry.

AN INTRODUCTION TO LABOUR

By Clyde E. Dankert. Prentice-Hall Ltd., Industrial Relations and Personnel Series. New York 1954. Pp. 605.

In this large book, Professor Dankert, a professor of economics at Dartmouth University, explores widely the field of labour, employment and labour-relations. As he himself mentions, he wanders into the realms of history, sociology, psychology and government — as well as his own field of pure economics, and the practical world of industrial relations.

The work is divided into four main sections — Employment and Unemployment; Unions, Management and Industrial Relations; Wages and Hours; and Social Security. Under the first heading he delves into the history of work systems, the economic necessity for work and modern work process. He discusses the labour force, including various age groups in it, the supply and allocation of labour and general and seasonal unemployment. Returning to pure economics, he gives us a short account of the business cycle.

The second section devotes a chapter to the history of trade unionism in the United States, then proceeds to examine more closely the aims, principles, organization and structure of unions. He deals with union membership, the relation of unions to government, and, in a philosophical vein, the union and the state. There is a discussion of industrial management, leading into a detailed treatment of collective bargaining and industrial disputes.

Wages and Hours are the topic of the third section, and the discussion begins with pure economics of wage theories. National wage policies, wages and unions, wage legislation and wage control are covered in fairly brief chapters, and some space is devoted to non-wage income, economic inequality, and the economic and social aspects of shorter hours.

The final section is devoted to the causes and types of insecurity in industry. Included is discussion of unemployment insurance, old age insurance, industrial accidents and workmen's compensation.

In a preface, the author explains that the growing number of important questions in the labour field has led him to evolve a broad general treatment of labour, as an introduction to the subject, with certain significant matters in the field being dealt with at considerable length in order to encourage the reader to think carefully and objectively about issues in the field.

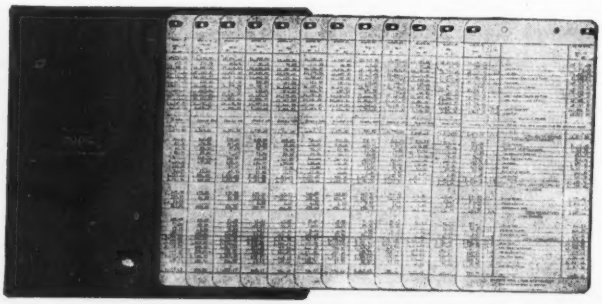
This is a complete book, clearly and carefully written, and it covers the matter of labour quite comprehensively. A worthwhile addition to the library, not only of the economist but of businessmen of all levels.

A RECORD SHEET—
METAL LINK
and
—THE ANSWER

Cope-Chat

UNISPRED

COMPARATIVE DATA FILE PAT. NO. 410881



As many sheets as required can be spread at will to left or right depending on the visible margin and filed in a folder, slightly larger than the sheets. It does not matter what method of comparative accounting you are using. UniSpred will increase the utility of the system. Comparative data methods fail if they do not produce results or control figures arranged for convenient study in compact form . . . UniSpred provides rapid calculation of horizontal or vertical rows of figures in order to obtain totals or summarized information, such as sales by salesmen, by product or by territories, for one day, a week, month or year.

Made and Sold by

COPELAND-CHATTERSON LIMITED

From Coast to Coast

BRAMPTON ONTARIO

Insurance and Falling Profits . . .

By BRENTON S. BROWN,
President,
Parsons, Brown Limited,
Vancouver, B.C.

In this timely article, the author discusses the question of insurance in a time of decreasing profits . He first tackles the problem of whether more or less insurance is needed, taking into account the need for greater security and the necessary reduction of fixed expenses. He goes on to discuss capital expenditures to reduce insurance cost, insurance programme efficiency and the economic purchase of insurance. This paper was presented at the 1954 annual conference of the British Columbia Society of Industrial and Cost Accountants.

THE topic today is to discuss insurance and its relationship to the effort of management to maintain profit margins. Shall we have more insurance, or less of it, or what shall we do about it? Since the insurance items stand as a fixed expense in the Profit and Loss Statement, an executive's first thought may be to consider how this item can be reduced. Is he buying too much insurance? On the other hand, he must consider the effect of an uninsured loss of any magnitude on his expected profit. He may have taken great care in making certain forecasts and wishes to be assured that nothing unforseen will affect it materially. Does he need more insurance?

Obviously, there is no set answer and it will take some study to decide on the proper action. The first step to take is to call in the insurance man and have a review of the problems of the business and of the existing insurance programme. Are there any major holes in the programme arising from either under-insurance or failure to purchase insurance? Has the insurance been purchased in the proper priority and are there items of insurance expense which could be deleted without severe effect?

Accompanying this enquiry, there is the question of what physical or operational changes can be made which will lower the insurance cost. What proposals can you make along either of these lines?

Bear in mind that your staff may feel bound by previous decisions and attitudes on your part which can be changed under new circumstances. Particularly in the case of advising capital expenditures, they will feel presumptuous about giving advice on other than obvious cases because they do not know how valauble your liquid dollar is to you. If profits are down, and margins smaller, if the Accounts Receivable are higher, or if you are more ready now than in the past to make plant changes for permanent operating economies, so advise them.

Expenditure to Reduce Insurance Cost

Let us tackle first the question of reducing insurance cost by capital expenditures or operational changes. Although this may be a time of reduced profit margin, it may still be the best time to use some of the

surplus for effecting economies and in this field, the cost of insurance can be a major item.

One of the greatest and best known cost cutters in a Fire Insurance programme is the automatic sprinkler installation, which in the average case, cuts the cost by two-thirds. An analysis of such installation is easily made. Sprinkler installation companies are prepared to make estimates at no cost. The Fire Insurance premium is already known, although it may have to be revised. For instance, if a person were under-insured, or failed to carry some major item of Fire Insurance, such as Business Interruption, our computation of his total Fire Insurance premium should be made as if this item were carried because obviously the sprinkler benefit will apply to him whether or not he actually purchased the complete Fire Insurance programme. The man who has carried no Business Interruption insurance and who may not even plan to, will be cutting the chances of a serious loss from this source, if he instals the sprinkler system, and the computation mentioned above provides the proper basis.

Not all risks are eligible. A business must have values at stake of reasonable magnitude, combined with an appreciable rate factor in order to provide sufficient savings. There is an initial cost of sprinkler installation. About the smallest completely sprinklered plant would cost about $5,000.00 to sprinkler. I would say that unless present insurance premiums, re-computed, as were mentioned before, are at least $1,000.00 per year, it is quite unlikely that an installation would prove economical. Or consider even a large reinforced, concrete building, where the occupancy was of a non-hazardous nature such as offices; the rate would be relatively low and would likely provide little opportunity for such economy of saving. There are borderline cases, where it would pay to install sprinklers at the time of construction, but not later because of higher cost, but this still leaves a very large field for examination. It has always surprised me to see the number of smaller woodworking and sawmill plants sustaining a high insurance cost and failing to take this move. The reason has usually been that the plant has "just growed" in a ramshackle fashion and is, therefore, very expensive to sprinkler or else it has been a marginal operation where the management has had its fears about making projections even a year or two in the future.

The possibility of sprinkler installations is not limited to those firms which own their own building. Tenants under a reasonably long term lease could make the analysis and offer part of the insurance savings as increased rent to make the proposal attractive to the landlord.

As another example, take the cost of insurance coverage on cash and securities. Installation of a burglar-proof chest at a cost of anywhere between $150.00 and $300.00, can cut burglary insurance premiums by

as much as 80%. Whether such a purchase is a good thing obviously depends on the amount of cash and securities at risk.

Then we come to structural defects in a plant, or structural improvements which can be made and which can affect Fire rates materially. There are other alarm systems which may be economical to employ.

Coming to operational procedures, let us look at vehicle operation. The operator of a large fleet of vehicles may have a full time supervisor to ensure sound operation, but in a smaller concern, little attention is often paid. The effect of good supervision over drivers can have a large effect on an insurance cost, which in this field bears greatly on the individual accident experience. How does the management at present hire new drivers? A complete report of his driving history can be obtained from the Motor Vehicle Department for $2.00, which is one of the best checks of previous enquiries made to former employers. Does the management make a real enquiry into each accident and maintain records to have in file? An exhibition of interest by the Management in concrete form is bound to have a beneficial effect.

As another instance of management outlook, we can consider the case of a contractor. In busier times, he may have deliberately encouraged a "high-balling" attitude among the operators of his equipment, because of the heavy demands on it. He may even rightfully have incurred equipment losses which might have been more than repaid in the additional use out of his machinery as a whole because of this high-balling practice. Thus the habit and pattern of operation is set which will not likely change without specific instructions. In a period of lesser activity, there is no reason to accept as inevitable the same scale of equipment damage as might have occurred in the past. Such habits and patterns are not easily changed and no change would come about without positive management action.

All these are but a few examples of physical examinations which are worthy of review and may prove profitable.

Insurance Programme Efficiency

Insurance programme efficiency consists in the main of checking not only the individual coverages, but in establishing correct priority of purchase. The cost of plugging major holes in a programme may often be met by foregoing certain minor coverages of lesser importance where the client may, not unwisely, choose to carry the risk himself.

At the top end of the scale comes the Fire Insurance programme. I will try to avoid being trite and confine my remarks to the more common failings observed. Dealing first with buildings and equipment, one of the most common failings is through inadequate appraisal which can lead to serious under-insurance, or premium wastage through over-insurance. The full appraisal provided by appraisal companies is

obviously the most desirable. This, of course, occasions expense at the outset, although maintenance cost in further years is very small. Failing this, however, there are other premium methods which are certainly far better than nothing at all: appraisal companies can make abbreviated types of appraisals on buildings at lower cost, or a contractor's estimate can be used as to replacement cost, although he is not an expert on depreciation. On equipment, a self appraisal can be reasonably effective: the obvious reason it is not done more is the time and meticulous trouble required. I do not think it is necessary to point out that the proper evaluation of both buildings and equipment has really no bearing at all on the figures shown in the Balance Sheet, which are the creation of the original cost and tax depreciation which can be very wide of the mark as to true value.

Before leaving this subject, let us talk of true depreciation and how it might incur difficulties for a company, and how to provide protection through Replacement Cost Insurance. Consider the case where the true replacement value of a building is, say, $100,000.00 and its depreciated value is $70,000.00. We are not concerned with the amount at which it is carried on the books, because as we have said, this bears no relation to the problem. If the building is destroyed, it may be that the $70,000.00 covered by insurance would be adequate to build smaller but more modern premises. Or, the money might be employed to purchase a similar building of similar age. More often than not, however, the case is to the contrary. The business does require the same type and size of building and frequently is tied as to actual location and would not wish to move elsewhere. Where will the $30,000.00 come from? True, if it is built, this $30,000.00 will show as an asset of the company to counter balance the expenditure made, but what about the liquid position? If this poses a problem, then the answer is Replacement Cost Insurance. The insurance rate is unchanged, but under the terms of Replacement Cost on the policy, it would then be necessary to insure to $100,000.00 instead of $70,000.00 and the higher figure would be the amount paid in the event of destruction.

For most businesses, depreciation of equipment is a much lesser problem because it is, in any case, being constantly renewed.

The efficient insuring of stocks needs little mention: substantial values in stocks are practically universally covered today under the Stock Reporting Form, which, properly used, always provides an excess amount of coverage, but the cost is based solely on the amount of insurance used, being the average of twelve monthly reports.

Dear to the heart of the accountant these days and to all insurance men is the subject of Business Interruption, often referred to by its old title "U. and O." (Use and Occupancy). This is the one major subject of Fire Insurance so frequently found missing. In some cases, a full programme is not the answer because the business may quite readily

operate by alternative means. Such a case might be a manufacturer's agent whose only requirement is warehouse space and whose stock, in the event of loss, is quickly replaced. Even he, however, should examine the unavoidable costs of alternate operations. His requirement will be substantially smaller than the full programme, but his answer is in what is called an "Extra Expense" policy, being a very simple document purchased to the amount required and without coinsurance. The great majority of businesses are not in this position and I think one good reason why Business Interruption Insurance has not been purchased is because it appears complicated. The complication arises from the fact that this policy contains a coinsurance clause and this in turn requires examination of the Profit and Loss Statement and projection to ensure that the coinsurance clause will be complied with. In turn, this often leads to complicated discussions of items in the Profit and Loss Statement, but as you know, it is not necessary for the insurance man to see the Profit and Loss Statement, as he can submit a form of questionnaire. However, this still does not often cause the client to believe he fully understands what he is purchasing. I am over-emphasizing the position because at the end of a proper interview on the subject these difficulties can be righted, and we all know how widely this coverage is purchased by large corporations, whose problems are certainly no less than the smaller organization. If this be the reason for avoiding this purchase, there is now an answer in a new form recently introduced. At the present time, it is not available for manufacturing risks, but covers all other types. This simple form has no coinsurance at all, although there is a limit on the policy that it will pay no more than 25% of its face value in any one month. The insurance man has no longer to complete a questionnaire and finally to instruct the client on how much he must purchase. He merely asks the client how much he wants. True, this can lead to under-insurance through too hasty a study, but a bit of under-insurance is certainly better than no insurance, where the loss may be a crippling one.

The man may say that because his profits are down he has all the less reason to consider this form of insurance. Even if he has no profit at all, in all likelihood he has fixed expenses and without profit, he is in a poor position to meet these. Naturally, if he has no profit, he will be buying less Business Interruption than if he did have a profit, and we would say his need for it is even greater.

Dealing next with Liability Insurance, relating not only to the operation of automobiles, but the possibility of claims from all other sources, we in the insurance business still frequently find large gaps. You have all heard that liability limits must be adequate and it is true throughout this entire field. For Bodily Injury, the additional cost for double the limits is very small. No matter what subject of liability insurance is discussed, the very minimum limits for Bodily Injury should be $100,000.00 and we say this merely from reading our own

newspapers and watching the judgments rendered. In the United States, we would set this minimum at $200,000.00 because of their higher judgments.

Property Damage limits are more subject to individual cases and types of operation. The causes for higher limits there are more substantial than for Bodily Injury and each case should be considered on its own. The biggest failure to take this loss possibility seriously is often generated by the attitude, "We usually do things this way or that way" or the client considers the probability is very remote and in so many cases he is absolutely right. But these attitudes have nothing to do with the case. Claims never arise from what people usually do: they arise from some error or omission and will always occur as long as human beings can err. If the probability is a low one, the rate is accordingly low and in this field, there is just no substitute for an all round programme.

I do not intend to run down through all the typical subjects of insurance, but I will now proceed to the other end of the scale, where we come to the fringe type of protection and where we wish to establish an economical and reasonable cut-off. As an example, we have seen cases where a business might have, say, a dozen vehicles carrying a $50.00 deductible clause on collision, when they should be carrying $100.00 deductible or, not at all unsoundly, $250.00 deductible.

Where you have a multiplicity of items such as this, it does not pay to insure similar items of less cost. The insurance business, too, has its cost of doing business, and in such cases, we are merely trading dollars back and forth, and which, at our end, we have to tack on this cost. Another case might be the business with quite a few branches throughout the province carrying insurance on various minor hazards at each location. As an instance, it would be poor policy for them to carry Plate Glass Insurance on their windows if the top loss possibility at any one location was reasonably small. To the individual in any one location a $200.00 glass loss could be a large one, but in the instance taken, it is certainly within the field of self-insurance.

Economic Purchase of Insurance

Having established the basis of an efficient insurance programme, including any practical physical improvements, it is finally necessary to consider whether it is being purchased at the lowest cost and we must consider the ways in which the client can best conduct himself to achieve this. This is a primary duty of your insurance man, following the design of the proper programme. One hears various terms used, such as "agent" or "broker". Any insurance office today carries agency contracts for certain basic lines of insurance but in following out a client's requirements, he does not, or should not, limit himself to those companies for which he is an agent.

The degree to which he will check the market possibilities of a certain coverage depends greatly on its nature; its unusualness, its hazardous nature, its susceptibilty to experience rating and other factors.

The insurance man who pleases you and appears to handle your problems well in respect to the first part of his duties can usually be relied upon to perform the second part equally well. Insurance combines both professional and merchandising features. To take an extreme, the worst possible action on the part of management would be to put up each subject of insurance for competitive quote at each renewal, or even to offer the entire insurance account at frequent intervals. There is too great a need for continuity and completeness in the agent's knowledge of your operations and needs. In so many types of insurance, and we mention Business Interruption as a fair example, the coverage you have is based on his knowledge of your business which has led him to choose the best of many alternatives and to tailor the form to your needs to every possible degree, and the cheapest possibility, has, in so many cases, not been the best choice or not formed the basis of his recommendation to you. For this reason, the relationship between buyer and seller in general insurance is usually one of continuity and long standing.

On the other hand, if the management feels that for one or various reasons the programme is not up to their expectations, alternative proposals can be received and they are best received in respect to the whole programme rather than merely a piece of it. To gain an account, we in the business ourselves feel that such proposals should be of real worth, both in imaginative ideas and economic savings before the change is warranted, particularly because the details and cost of the present programme are often, perforce, made known to the alternate proposer, and under the stress of an immediate competitive situation, temporary loss leaders are not unknown. An award made purely on a price basis in a sense releases the winner from his normal responsibilities in other matters. Thus the whole problem is one of general good business judgment, rather than a bidding proposition. The imported conclusion to reach is that the programme is correct and its price is reasonable.

FOR FURTHER READING

INSURANCE, SELF-INSURANCE, NON-INSURANCE — C. Z. Greenley, Management Methods, Sept., 1954.

PROFITS INSURANCE AND THE ACCOUNTANT — M. Hogben, Chartered Accountant in Australia, Sept., 1954.

WHEN PROTECTION COSTS LESS — W. J. Parker, Systems, February, 1952.

SEVENTEEN WAYS TO REDUCE THE COST OF FIRE INSURANCE — J. R. DeHaven, Factory Management & Maintenance, Dec., 1948.

AN INSURANCE PROGRAMME FOR AN OPERATING COMPANY — W. R. Walker, Controller, Nov., 1952.

SOLUTION OF A PROBLEM IN PLACING FIRE COVERAGE — O. T. Case, N.A.C.A. Bulletin, Sept., 1954.

COST AND MANAGEMENT

LOSS OF PROFITS — FIRE INSURANCE POLICY — C. H. Buchanan, Federal Accountant, Oct., 1951.

INSURANCE SERIES — AMERICAN MANAGEMENT ASSOCIATION:

No. 84—Re-evaluating Insurance Coverages and Costs.

No. 91—Opportunities for the Corporate Insurance Department; New Fields of Potential Loss.

No. 92—What Should Your Insurance Limits Be Today? — Improving Co-ordination with Other Departments.

No. 98—To Insure or Not to Insure? — What Management Expects from an Insurance Department.

No. 99—Experience With the Manufacturer's Output Policy — Settling a Business Interruption Loss.

No. 100—The Objective of Insurance Management — Can the Fittest Survive? — The Insurance Manager's Role in Loss Prevention.

No. 101—Determining What and How to Insure.

PERSONALS

Stanley H. Wilkins, R.I.A., has accepted the position of Business Manager and Assistant Superintendent of the Stratford General Hospital. Mr. Wilkins was formerly at Watts Hospital, Durham, North Carolina and the Hamilton General Hospital.

Dr. Calvin Potter, M.A., Ph.D., recently-appointed Director of Education Foundation, has been successful in passing the final examinations of the Institute of Chartered Accountants of Quebec.

Max C. Coutts, B.Sc., P.Eng., R.I.A., the Honorary-Secretary of the Society of Industrial and Cost Accountants of Canada has been elected by the Board of Directors of Sangamo Company Limited, and Wagner Electric (Division of Sangamo) as Vice-President in charge of Manufacturing.

OBITUARY

We announce with regret the death of William Henry Brett of London, Ontario.

Mr. Brett, who was a general member and a Director of the London Chapter, died in Victoria Hospital, London on December 1st. During his lifetime, Mr. Brett was employed by Somerville Limited for more than 15 years. He was Cost Analyst there at the time of his death.

Officers of the London Chapter, speaking in tribute to Mr. Brett, said: "The London Chapter will certainly miss him as he attended meetings regularly and was a loyal and enthusiastic supporter of the aims and objects of the Society."

The S.I.C.A. of Canada joins with the London Chapter in expressing its sympathy to Mr. Brett's family in their loss.

The Use of Standard Costs in Business Interruption Insurance . . .

By KENNETH E. PETTIJOHN,
Certified Public Accountant,
Minneapolis, Minn.

This author discusses methods of employing standard costs in the calculation of insurable values and "proof of loss" statements in business interruption or "use and occupancy" insurance. He deals with types of Use and Occupancy insurance policies; what information is needed in the use of standard costs with U. & O. insurance; how the information is obtained; and the use of the information. Examples of possible worksheets for computing variance values are also shown.

THE basis of placing and settling Business Interruption, (or Use and Occupancy) Insurance, is the determination of a U. & O. Value. These values fluctuate from month to month, and it is sound insurance administration to determine them monthly on a monthly U. & O. Value Report. It is the purpose of this paper to discuss such a report in a manufacturing concern that uses a standard cost system that is controlled from the general books of the company.

This approach is founded upon the premise that standard costs not controlled by the general books do not constitute insurable values. It is believed that such "unofficial" standard costs cannot be sufficiently documented to support a claim in the event of a loss.

U. & O. insurance protects the manufacturer against loss resulting from prevented production (or on jobbed items from prevented sales). It is understood that given sound documentation (basic standard costs) of prevented production, it should not be difficult to arrive at a satisfactory adjustment.

There are a variety of U. & O. policies issued under a variety of terms. Regardless of the type or term used, the insurance policy protects against the loss of "earnings". And they insure *only* "earnings". The manner in which these earnings are recorded in the light of coverage carried, will largely determine the speed and ease of adjusting a loss. It will also determine the adequacy of the amount of the protection carried.

Exposure to loss should be regularly documented. The present industrial picture warrants regular revision of the amount of protection carried. With monthly reports of U. & O. insurable values, the danger is materially lessened that the insurance carried will either be too low or too high. Too low coverage not only causes inadequate recoveries, but also results in further lower recoveries by the application of the co-insurance clause. Too high coverage causes loss in extra premium cost, and does not bring higher settlements. Again it is "earnings" that are protected. Those "earnings"' must be documented, and you will find it difficult to document or prove that which you do not have, or would not have had.

The administration of a U. & O. insurance program should be kept as simple as possible. At the same time, it should be adequate to keep management constantly aware of the month by month exposure to loss, the protective steps taken against loss to such exposure, and the cost of such protection. If the monthly report revolves itself around the calculation of a U. & O. value by simply multiplying estimated quantity production lost times values based upon standard costs, the process is bound to be greatly simplified.

Of course, the standard costs used should stand up against the eagle eye of a good insurance adjuster. Those costs that are insurable under the contract, plus insurable variances, constitute the unit values that are used in determining insurable values. With the standard costs static, or changing only rarely, the monthly variance from insurable standards for those items in the cost structure that are insurable, remain the only amounts that are determinable each month.

It then remains to determine which items in the standard cost structure are insurable. While this discussion does not pretend to be a treatise on insurance, we do feel that mention should be made of those basic provisions of the insurance policy that must be carefully studied to determine which items are, and which are not, insurable. You should also consider such items with your insurance company, so that your monthly calculations used in determining the original coverage needed, may reasonably be expected to be actually insured when an actual loss occurs. Such action is bound to facilitate a satisfactory adjustment. It will also prevent luxury or over insurance coverage, and at the same time, assure adequate protection.

Types of U. & O. Policies

Before we outline the procedure for setting aside or highlighting those standards or variances which are insurable, it may be well to discuss the make-up of a U. & O. policy. In doing this we will attempt only to cover those items that bear directly on our present topic.

Conventional U. & O. policies are written in two forms, both of which have applications to standard cost accounting. These forms are:

1. Two Item Form
2. Gross Earnings, or Single Item Form

The TWO ITEM FORM, as its title implies, covers specifically as outlined in the policy form, two items; namely the net profit, and the ordinary payroll.

Every policy should be carefully studied to be sure that the coverage is what is needed. Policy terms should be understood before any attempt is made to apply standard costs to the U. & O. coverage. The actual wording of the various policies should be available through any good insurance underwriter.

However, it might be well to briefly discuss what is covered in the two types of coverage. First we will look at the Two Item Form.

ITEM I. Actually this item can be divided into two headings:

1. Net Profit
2. Charges and Other Expenses

Surely the term, "Net Profit" needs no explanation to the ordinary industrial accountant. However, the term "Charges and Other Expenses", will probably stand some consideration. Such a classification, would under the ordinary Chart of Accounts, include such items as the following:

1. Executive and Administrative Salaries.
2. Contractual obligations that continue during an interruption of business.
3. Expenses that continue during an interruption, and that could not be eliminated without harm to the business, thus preventing resumption of production as soon as possible.
4. Expenses incurred to reduce the loss.

Item I does not include any ordinary payroll of the company, any cost of materials or merchandise, depreciation, amortization, etc.

ITEM II. This item merely covers the ordinary payroll of the insured.

This does not, of course include salaries that are covered under Item I, but it does cover the ordinary employees of the company up to 90 days unless specifically increased by an endorsement to the policy.

Under the "Gross Earnings", or single item form, the insurable value is based upon the net sales value of production less the cost of raw material or purchased merchandise, plus other earnings derived from the business, and further less charges and expenses that do not continue during the interruption of the business.

In both the single item and the two item forms of insurance the insurable value is limited to THE ACTUAL LOSS SUSTAINED. In determining the ACTUAL LOSS, the experience both before and after the loss is considered in setting the U. & O. value. The idea is that the U. & O. insurance contract says to you that the insurance company will pay the income you would have made, as if the property used in the production of your income had not been destroyed or damaged. The policy clause puts it this way, "In determining 'Gross Earnings', due consideration shall be given to the experience of the business before the loss, and the probable experience therafter had no loss occurred."

The setting of a U. & O. Value (the amount you carry, or the amount you recover in the event of a loss), then resolves itself into a determination of the value of those items that are covered under the policy. The setting of such values is naturally an arbitrary agreement between the insured, and the insurance company. For who knows,

"What Might Have Been?" But yet, that is what we are faced with in the documentation of U. & O. insurance. However, the task is not as hard as it might seem if accurate and proper records have been kept. It is possible to leave only one factor a matter of negotiation in the settlement of a U. & O. claim. That one factor being — the quantity of lost production.

What Information Is Needed in the Use of Standard Costs With U. & O. Insurance?

From an over-all point of view, the following items are generally insured by U. & O. policies:

1. Net Profit
2. Salaries of:
   a. Officers
   b. Key administrative personnel, department heads, employees under contract, and those who should be kept on the payroll during a shutdown, so that they will be ready for resumption of production. (Ordinary payroll personnel would also be covered, but under the two item form of coverage, those would be included under Item II, of the policy).
3. Charges and other expenses that would continue during a total or partial suspension of production.
4. As stated before — Expenses incurred to reduce the loss.

Actually, the information that is needed when Standard Costs are to be used, is the same as when there is no standard cost system. However, the advantage of tying the standard costs into the determination of the U. & O. Value lies in the fact that once such unit values have been determined, it becomes only necessary to multiply production quantities by the Standard U. & O. Values. You also have a parallel monthly report for management to use in administering the U. & O. insurance program.

Of course, we should be mindful of the fact that two factors enter into the profit structure of any standard cost system, whether it be one that completely covers the accounting system, or whether it is only a manufacturing standard. These two factors are:

1. Standard Costs
2. Variances From Standard

How Is the Information Obtained?

The method of obtaining the information (U. & O. Value), will largely be determined by the type of accounting system that is in use, and the manner in which the standard cost system is tied into the regular accounts of the company. One method by which this information may be obtained is by using a series of worksheets on which insurable items are separated into one total, and non-insurable items are separated into another total, with the total of both insurable and non-

insurable items being equal to the total expenses shown on the worksheet (this total should be obtained from the regular accounts of the company).

Some firms use standard costs in connection with their manufacturing accounting only, and others use the standard costs also in their selling and administrative accounts. The extent to which the standards are used will determine the number of worksheets that will be needed. Let us assume that an item sells for $1.00, and it is made up of the following factors:

Raw materials	.10
Direct Labour	.30
Factory Overhead	.20
Selling Costs	.15
Administrative	.15
Total Costs	.90
Total Selling	$1.00

Now, let us make one more assumption — that the company selling this item maintains a standard cost system on all sections of the cost structure and that monthly operating reports to executives show standard costs and variances therefrom on each of the above items.

In order to obtain the U. & O. Value on the standards, a worksheet similar to Exhibit I, could be used. This worksheet would have three columns. The first column would consist of amounts taken directly from general ledger accounts. Here, we should note, that these amounts are the same as those amounts that were used in setting the standards. The second column would show the amounts that are not insurable under the U. & O. policy. The third column would list the amounts that are insurable under the U. & O. policy. The totals of columns two and three should equal the total of column one. The total in column three would be used as the U. & O. standard.

A word of caution here — In setting up this worksheet, care should be exercised to be sure that items carried into columns two and three, would be entered into the correct column. This should be done only following a conference with your insurance administrator and your underwriter.

There would be a separate worksheet for each of the following:

1. Factory Overhead
2. Selling Costs
3. Administrative Expense

You would not need a worksheet covering raw materials standards, as they are not covered under U. & O. insurance. Neither would you need one for direct labour, because while it may have a considerable breakdown in the standard cost system, still the entire amount of the direct labour is covered under Item II, of the two item form, and is an integral part of the cost in the "Gross Earnings" form.

Once the standard U. & O. Value has been determined, it should not be necessary to recompute the standard unit value unless, or until the standards themselves have been changed. As this is usually an infrequent happening, the work that is involved is kept at a minimum.

However, unit variances from the standard cost present a different picture. It is essential that these variances be determined, if the total U. & O. Value is to be of any use in connection with the administration of the U. & O. insurance program. The manner in which the variances from standard are obtained in the usual operating procedures will determine the manner in which the U. & O. Variance Value will be obtained.

The problem of variances in raw material costs is not a factor in our discussion, because U. & O. insurance does not cover raw materials. Neither, is the problem of direct labour variances essential. Recovery under a U. & O. policy for direct labour would doubtless be at the single standard unit total cost (for direct labour), unless it can be established that the costs would have been greater than the standard. At the same time an insured is not going to be very anxious to establish proof that the actual cost was lower than the standard.

However on the other hand, variances in factory overhead, selling and administrative costs present a different picture. There are so many factors that affect variances, and such a broad usage in standard costs systems, that we hesitate to suggest any more than a possible approach in the most generally accepted of the many standard cost procedures.

Before we describe a method of determining variances, it might be well to discuss briefly the problem of setting a useful U. & O. Standard that is based upon the production level anticipated during the U. & O. period. Usually various production levels call for varying standards. To put it another way, variances from standards are explained as quantity variances. Our problem is to arrive at the total variance thus explained, and to further break the values down into two categories, those that apply to insurable items, and those that cannot be insured.

Let's take another look at Exhibit I. Suppose for sake of illustration that of the total factory standard of 20c per unit, 15c is insurable, and 5c could not be recovered under a U. & O. settlement. Suppose further, that during the immediate past accounting period under report actual cost had been 21c per unit instead of the 20c per unit standard. The 1c per unit would be the variance from standard. We must allocate this 1c variance to insurable and non-insurable items, without going back into the cost structure into too much detail. The first step is to find out whether it resulted from production variation, or from higher costs. If it is from production variation, a strict percentage allocation between insurable and non-insurable values should arrive at a satisfactory U. & O. Value. On the other hand, if the increase is caused by higher costs, proof must be established that these costs were actually within the structure of those accounts that are insured, if the increased amount is to be proved as a part of the U. & O. Value.

How can this be done? The following procedural steps may be of some help.

Step 1

Prepare a worksheet with the following columnar headings:

a. Actual ledger expense of period under study
b. Recomputed expense
   (1) Standard
   (2) Production Quantity Variance
c. Difference
d. Segregate General Ledger accounts into two categories:
   (1) Insurable under U. & O. policy
   (2) Not insurable under the U. & O. policy

Step 2

Enter under column a, amounts from the general ledger, and total, arriving at two totals as under d(1) and d(2), above.

Step 3

Recompute expense allowance, and enter amounts in columns b(1), and b(2), as follows:

a. b(1) — Expense allowed at regular standard. This might mean arriving at the standard value value for each factor in the expense category, before the regular standard can be determined.
b. b(2) — Production quantity variance allowed.

Step 4

Total all columns.

Step 5

Subtract from total in column a, the totals in columns b(1), and b(2), to arrive at the amount in column c. This amount will be the cost variance, and the amount in the insurable section should be the amount that is used in the U. & O. Value. If the total amounted to ½c per unit, and the insurable standard were 15c, then the total U. & O. Unit Value would be 15½c.

Use of the Information

We approach now the use of the U. & O. Value for insurance purposes. Actually, the first step would be the arrival at a production loss, if you were settling a U. & O. claim. Even though we are setting the amount of insurance we want to carry, we should approach such a problem in the same manner in which we would establish a U. & O. Value with the insurance company. However, the processes involved in such a determination are outside the scope of this discussion. Such information involves the production department, although the accounting department may have a hand in such calculations.

After the anticipated production loss has been determined, the next step is to multiply the quantity times the U. & O. Unit Value. For purposes of illustration, let us assume the following U. & O. Values:

Direct Labour	.30
Factory Overhead	.15½
Selling Expense	.12½
Administrative	.13
Net Profit	.10
Total U. & O. Unit Value	.81

Thus, if the production lost was 10,000 units, the U. & O. Value would be $8,100.00.

For purposes of setting the U. & O. Value for the placing of insurance, it will probably be necessary to use either the planned production, or a production figure that is based upon the past experience and its relation to the anticipated future. This is because the insurance policy states, that in arriving at a settlement, due consideration shall be given to experience of the business before the loss, and the probable experience thereafter had no loss occurred. It is more than likely that a policy will be planned for 12 months in advance, although it might be set at a six months experience. In any event, running totals should be used in arriving at the amount of insurance that should be carried in order to give the company the proper protection.

The actual presentation of the report for use by management, and the insurance administrator would vary with the desires of those who use the reports. However, certain basic information should be presented. How it is presented, and in what order will depend upon personal likes and habit, but don't fail to include the following information in the monthly U. & O. Value Report:

1. Actual production quantity during the next 12 months during the period immediately past. (If the production for the previous period is readily available it will be helpful in proving estimated production in the next twelve months immediately ahead.)
2. Estimated Production next 12 months.
3. Actual U. & O. Value
   a. Standard
   b. Variances from standard
4. Anticipated U. & O. Value

Concluding Comment

The basic problem in maintaining a U. & O. insurance program is in properly documenting the calculations made. This first involves determining insurable values for placing the coverage. Then, it involves building up over a period of time an adequate detail of records for use in substantiating a well prepared "proof of loss" claim in the event of a loss. It is our hope that steps mentioned in this discussion will be of value to any one who is faced with the problem of administering a sound U. & O. insurance program, from the records in the general books of the company.

EXHIBIT I

XYZ CORPORATION
WORKSHEET FOR DETERMINING U. & O. STANDARD VALUE

Date .....

ACCT. NO.	ACCOUNT TITLE	TOTAL FACTORY OVERHEAD	NON-INSURABLE UNDER U. & O. POLICY	INSURABLE UNDER U. & O. POLICY

EXHIBIT II

WORKSHEET FOR DETERMINING U. & O. VARIANCE VALUES

Period ....., 19.... to ....., 19....

ACCT. NO.	ACCOUNT TITLE	ACTUAL EXPENSE	COMPUTED EXPENSE		DIFFERENCE	
			STANDARD	QUANTITY VARIANCE		
	Insurable Under U. & O. Policy					
	Not Insurable Under U. & O. Policy					

Management and the Cost Accountant . . .

By HENRY A. MARTIN,
Management Consultant,
Henry A. Martin Limited,
Toronto

Rising labour costs and the resulting smaller profit margin have made it imperative for alert management to know exactly what every product costs and be able to forecast these costs for the future, this author affirms. He discusses the importance today of cost accounting to management and to control in the factory. It is this author's opinion that the cost accounting function should be part of the factory operation, since this is where the expenses are incurred and where the corrective action must be taken. Both the means by which a Cost Accountant can sell his ideas to management, and the ways in which management can derive the most benefit from its cost men are discussed in this interesting article.

CANADIAN industry is feeling the pressure of increasing competition from foreign manufacturers who are attracted to Canada by the widespread publicity that we have had in the past few years as a growing market and a major industrial nation. Under these conditions, it is imperative that top management have accurate facts with which to work. This means accurate and prompt factory costing and, concurrent with that, the application of this data to cost reduction programs and the preparation of factory budgets. To extend this a bit further, management, through its cost accounting and other specialist staffs, must think of the future and the requirements for new plant, new processes, and new products so that Canadian industry will hold its place in the growing domestic market. In order to make intelligent decisions, there must be accurate forecasts of probable factory costs for establishing optimum selling prices consistent with a proper margin of profit.

Then, too, there is this angle. In the past two decades there has been much attention to cost reduction techniques through the use of improved methods in the plant, through the application of incentive bonus payment methods, through the purchase of automatic machines and tools, through studies of material handling and other techniques which are well known to you through the training work which you do in your Society. All of these have helped to maximize profits. At the same time, rising labour costs and a resulting smaller profit margin have made it imperative for alert management to know exactly what every product costs and be able to forecast these costs for the future. The easy payout times have been skimmed in many, not in all, plants. This is not to say that there are still not many opportunities for improvement. It does mean that a more careful cost analysis and projection of returns to be realized are required today.

Effectiveness of Management

As consultants, working largely in manufacturing industries and in the factory end of the business, we are well aware of the importance of

the cost accountant to management. In making an audit or an appraisal of the effectiveness of any company management, one of the first points that we are apt to go to for information is the cost accounting department. Our appraisal of a company depends on our impression of the effectiveness of the cost methods that are established and, even more important, of how effectively the cost accountant and his staff are used by top management.

We should point out that our interest in cost accounting is concerned with the application of costs to manufacturing and engineering matters. We are not an accounting firm. We get at the problems of cost finding and cost analysis from the standpoint of the Factory Manager first and then from that of top management. It is perhaps an indication of bias when we say we firmly believe the cost accounting function in a company should be a part of the factory organization.

Cost Accountant in the Factory

We have a number of reasons for believing in this form of organization. While cost data and cost results may be used by others than the Works Manager for arriving at decisions, the primary purpose of such data is more effective factory control. Cost must follow the sequence of manufacturing or processing operations. It must be understood by the works management. Reports must be produced quickly so that management can take prompt corrective steps where indicated. Records must be located near the factory management so that special analyses can be made readily. As we indicated, it is the Works Manager who must take corrective action based on reports prepared by cost. It is in this general field that the greatest return is to be expected from work in cost finding and cost analysis.

We recognize that there may be organizations in which the cost finding function for a marketing or distributing organization is also important. In these cases we believe that the cost accountant or industrial accountant ought to be located in the department concerned, if size and importance warrant, otherwise it can be a function of the general accounting department, or be assigned to the cost accountant.

As a further argument in favour of this, we follow the principle that the cost function belongs at that point in the organization where the expense of that function is incurred. Almost all of us would agree that the expense of the factory cost system should be charged against the Works. There is another reason for placing factory costing under the responsibility of the Factory Manager or Works Manager. Almost all of the modern techniques for analysis and control in the plant, — production control, quality control, cost control — depend on the same basic data from operations. Further, most improvements that are made in a large plant today cannot be by unilateral action on the part of any one of the staff services reporting to the Works Manager. Most improve-

ments today come as a result of work by a team. Of course, in a small organization this team may consist of one man who wears many hats. However, we can think here in terms of the moderate sized industrial organization where there is a Works Manager with a production control supervisor, a cost control supervisor, and a quality control man, perhaps, all serving as staff specialists.

Selling Ideas

Now you may say that the top flight cost accountant who feels that he would like to see more of his ideas accepted by management will be too far down the executive ladder if he is made a part of the factory organization. We don't believe that this necessarily follows. Acceptance of proposals and ideas depend on their worth, but they depend even more upon how well sold and how widely accepted they are by the people who must use them or the people whom they affect the most. It is certainly true that top management will use data prepared by the cost analyist for pricing policy and for decisions as to new plant. These recommendations and opinions when agreed to by the Works Manager, would hardly carry more weight if they were presented by a Vice-President in Charge of Costs.

Stature in the organization and acceptance of ideas of the cost accountant have a parallel in the manufacturer with a new product to sell. It is doubtful that a ready-made market exists for any new product. A latent market may be there but it must be developed. The manufacturer must bring his product to the attention of the buyer, he must develop a system of distribution to get it to the buyer and he must price the product attractively. I think that any professional specialist in a large company has much the same problem. The latent market is there but it must be developed.

Professional Societies

One of the greatest factors in helping to assist in this work is professional societies such as the Society of Industrial and Cost Accountants. In a sense you may say that a great deal of the research and development work in new techniques and methods is undertaken through the impetus supplied by societies such as this. Certainly they do assist members in broadening their technical understanding and abilities in chosen fields. They do serve as a medium of exchange of information. We are sure that most of the meetings of any professional society result in direct benefits to individual members and to the companies for whom they work.

The modern concept of costing stems directly from work of professional societies such as this and we think that some of the engineering societies can share in this credit. Also, we believe that consultants in the field of management have made some contributions in this regard.

We think that the day of the cost accountant, a subsidiary department head in the accounting department working strictly as a part of the accounting department, producing historical costs, is gone. We hope that the day of the cost controller, the man who prepares budgets, reports on costs and prepares a scathing denunciation of the factory organization for the failure to live up to budget forecasts, is about to come to an end also. The leaders in your profession, your professional societies, think in the modern concept of analysis and assistance. The cost accountant is considered to be a part of the management group getting basic data together and on this, making recommendations for management's decision. This is a concept that still lacks complete acceptance on the part of many managements, but it is growing.

We sometimes find companies where each department, production, sales, cost accounting, exist in sealed compartments, almost completely insulated from each other. After all, they only exist as component parts of an industrial organism that is put together for the purpose of selling a good product at a profit. Hardly any one of these components can take action without affecting the others. Both management and the cost accountant need to break down these barriers.

Coordinated Controls

Naturally all good controls over operations must be coordinated. For example, in production control the basic purpose is to plan and schedule men and machines for best use of the capacity of the plant at lowest cost. Instructions to the factory and reports back from the factory should also form the basic data which are used for cost control. Idle machine time to a foreman means one thing — loss of production. Idle machine time to the cost analyist means unabsorbed burden. Both, from the management point of view, mean higher costs, lost business and lower profit. We believe there are not enough foremen and factory managers who look at ways and means of reducing idle time. Reporting these costs in dollars and cents emphasizes the potential savings. We think that the cost analyist is also obligated to consider effective means for reducing idle time. Management's approach to any problem is to put all professional skills that bear on the problem to work at a solution.

Now the topic "Management and the Cost Accountant" assumes that there is responsibility for action by both parties. First we have to consider what the cost accountant can do to make himself more effective and then we must consider how management can make more effective use of the cost accountant. On the first score, we are firmly convinced that professional meetings, such as this, are one of the best ways for a man to make himself more effective in his job. Meetings, publications, and recognized training techniques, such as you have, are of immense value in the programme of study and self improvement for the professional man. We know of no better way to pick up ideas on new techniques. There is the further advantage that through meetings and discussion

groups the participants get an opportunity to talk with people who have a first hand knowledge of some of these techniques. The second point that we would like to make is that in order to be more effective in any situation one must have a plan. It is easy enough for any of us to settle down to a routine that fits each day's requirements. We may even feel that in preparing an analysis of the monthly report that we are doing creative and constructive work. That may be true. Certainly further ideas for development of constructive work may come out of such analysis. However, we look on that as a part of the job assignment of the cost accountant. The important thing is to find the time to undertake new development work and to come up with sound ideas. That calls for a thorough analysis of every day's work pattern, week's work pattern and month's work pattern, establishing what we call a Daily or Weekly Order of Work Sheet to be sure that we get the routine jobs done and planned and then work in time for new development work.

Attacking a Problem

The next point is how to get management's approval to go ahead with some of these ideas, how to get them accepted. It is largely a parallel to the problem that we have as management consultants. Our first task is to sell the management the idea that something needs to be done, and then they need to take on what amounts to extra part time staff to get the job done. The staff cost expert doesn't have the latter problem, at least.

Selling the idea, though, depends on an effective sales presentation, the marshalling of facts and the pointing out of the definite benefits to be derived. At times management take the point of view that this is all theoretical — how do they know that it will work in this plant? In most instances we think you can fall back on the argument that the basic principles have been tried and in many cases you can point to a publication of this Society analyzing its application in some other plant.

Once given an assignment or once permitted to go ahead with an assignment the main idea is to sell the solutions as you go along. People like to participate. The time study man, the production control man, the personnel officer, almost anyone of the staff specialists may also have some interest in the problem which you are attacking. Quite often they have a valuable contribution to make. Selling ideas to management depends to a large part on being able to say: Well so-and-so likes it, the man who's going to use it will like it, or the man that's affected by it will like it; in addition to pointing out other advantages that will accrue to management. So as far as possible the recommendations which you make, the solutions which you propose, should be pre-sold before they go to top levels of management. Bring the participants in early and have them participate. Don't present a closed deal or a full package and expect to get instantaneous acceptance.

Importance of Communication

Another point should be made in speaking within the family; both engineers and accountants sometimes lack skill in presenting reports. You have a better chance to sell a sound idea if you learn how to prepare a convincing report, either verbal or written. Impressive tables of tion to get management to buy them. A project on which you have put in hours of work in collecting data, making an analysis and coming to a conclusion or a set of recommendations, is certainly worth a small amount of extra time that it takes to figure out an attractive, sensible and coherent presentation. Finally, if you expect to get action on recommendations, the reports should be pointed to action. This means definite recommendations sold down the line in advance.

We have discussed how a cost accountant can present ideas and recommendations to management. It is now time to state how management can make more effective use of the cost accountant. It is not easy to talk about this since none of us are in a position to dictate to our managers as to what they shall do. But there is this point. Communication is always a two-way street. Both the cost accountant and management must develop ways to exchange ideas, to criticize these ideas, and to develop together policies and plans to further the success of the enterprise. The experts in communication tell us that the more a data and analysis are good but they depend on an acceptable presentachannel of communication is used, the more it will continue to increase in use. Here are some of the things that management can do to improve communication and make more effective use of the cost accountant.

1. Management must be aware that costs are not historical data. Costs should be pointed to the future which means that the cost accountant must participate in planning at the factory level. It means that he can't be confined to a desk job in the office. He must be expected to spend a major part of his time on the factory floor and in working with his other staff colleagues for methods of improvement — planning more effective operations.
2. Management should recognize their cost accountant as a source of intelligent opinion on many problems in factory organization. We are not saying that the cost accountant should become the local specialist on organizaion. However, we feel quite sure that in many companies the cost man has probably done extensive reading and studying on the subject since he is concerned with organization when working on budgets, on problems of expense distribution, and other aspects of his work.

   Broadening the scope of the cost accountant's assignments, when the man is interested, and qualified, will make him more valuable to management.

3. Management should make use of the cost accountant in planning their projects. Many new projects are assigned solely to the Engineering Department. All of the data, all of the calculations and all of the planning is done by that Department, often without reference to the people who will operate the plant after it is built, or the people who will be responsible for turning out the cost figures.

   Intelligent planning calls for the use of all data that is available and I feel sure that many companies do not make use of all of the data or intelligence that is available in their cost department.

4. Management should give the accountant proper tools with which to work. Payouts on capital investments for new office machines are often as good percentage-wise as those for factory machines. Good tools, and good staff at adequate salaries are essential if a cost system is to improve in effectiveness.

FOR FURTHER READING

THE CO-ORDINATION OF PRODUCTION, PLANNING AND COST ACCOUNTING IN MANAGEMENT — R. G. Ward, Cost Accountant, Dec., 1953.

COSTING FOR MANAGERIAL GUIDANCE — A. V. Madge, Business Management, July, 1953.

COSTING TECHNIQUES AS AN AID TO MANAGEMENT — A. E. Bishop, Canadian Chartered Accountant, July, 1954.

COSTING TECHNIQUES — THEIR EFFECT ON MANAGEMENT — David Solomons, The Cost Accountant, Jan., 1954.

COST ACCOUNTING'S ROLE IN MANAGEMENT — F. J. Carr, N.A.C.A. Bulletin, Apr. 1, 1947.

COSTS FOR MANAGEMENT DECISIONS — E. M. Hicks, N.A.C.A. Bulletin, Aug. 1, 1947.

A NEW TOOL FOR MANAGEMENT — C. B. Taylor, Cost & Management, Oct., 1940.

NEW PERSPECTIVES IN COST ACCOUNTING FOR MANAGEMENT — W. Scott, Australian Accountant, Jan., 1950.

MANAGERIAL UTILITY OF ACCOUNTING IN A PERIOD OF ADJUSTMENT — Accounting Review, July, 1954.

MANAGEMENT PLANNING AND THE ACCOUNTANT TODAY — D. McMaster, Cost & Management, Apr., 1954.

MANAGEMENT NEEDS FACTS — AND VICE-VERSA — S. F. Banas, N.A.C.A. Bulletin, June, 1952.

MANAGEMENT ACCOUNTANT IN ACTION, THE — H. Norris, Cost Accountant, Jan., 1953.

Student Section . . .

ADVANCED COST ACCOUNTING — PAPER 1 — 1954

QUESTION II (25 marks)

The Rose Glo Company make a single product and employ a standard cost system isolating two material, two labour, and three manufacturing expense variances.

During the month of December, 1953, the Company completed 800 units. There was no inventory in progress at the beginning of the month, but at the end of the month there was on hand 100 units which were 50% complete for labour, and had all the Alpha raw material and 50% of the Beta raw material.

The standard cost per unit based on production of 1000 units was:

Direct Labour 24 hrs. @ $1.30 per hr.	$31.20
Direct Material:	
Alpha 10 lbs. @ $1.10 per lb.	11.00
Beta 5 lbs. @ 2.00 per lb.	10.00
Factory expense—$1.00 per direct labour hour	24.00
Total standard cost	$76.20

The records for the month of December show the following data:

Material issued to production
- Alpha — 9400 lbs. @ $1.00 per lb.
- Beta — 4260 lbs. @ $2.20 per lb.

Direct Labour — 20,000 hrs. @ $1.32 = $26,400.00

Actual factory expenses incurred $18,500.00.

REQUIRED:

Tabulate the variance of actual cost from standard and prepare an analysis of variances for labour, material and overhead.

SOLUTION TO QUESTION II:

Materials Variance			
Alpha—Quantity	400 lbs. @ $1.10	$440.00	Dr.
Beta —Quantity	10 lbs. @ $2.00	$ 20.00	Dr.
Material Quantity Variance		$460.00	
Alpha—Price	9,400 lbs. @ $ .10	$940.00	Cr.
Beta —Price	4,260 lbs. @ $ .20	$852.00	Dr.
Material Price Variance		$ 88.00	Cr.
Labour Variance			
Wage Rate Variance	20,400 hrs. @ $ .02	$408.00	Dr.
Efficiency Variance	400 hrs. @ $1.32	$528.00	Cr.
Factory Expense Variance			
Actual Factory Expense		$18,500	
Budgeted Factory Expense		$24,000	
Budget Variance		$ 5,500	Cr.
Budgeted Factory Expense		$24,000	
Actual Hours x Standard Rate = 20,000 hrs. @ $1.00		$20,000	
Capacity Variance		$ 4,000	Dr.
Actual Hours x Standard Rate = 20,000 hrs. @ $1.00		$20,000	
Standard for 850 Units @ $24.00		$20,400	
Efficiency Variance		$ 400	Cr.

COMMENTS:

Most candidates obtained good marks in this question. If any difficulty was experienced it was usually in calculating the factory expense variances.

FUNDAMENTALS OF COST ACCOUNTING — 1954

QUESTION IV (20 marks)

For the Gray Manufacturing Company's fiscal year which has just been completed, the departmental overhead rates applied to production on the basis of direct labour costs were:

Dept.	Percentage of Direct Labour
1.	325%
2.	340%
3.	350%

The actual results of operations for the year, which were at normal capacity, have been compiled from which you are supplied with the following data:

Direct expenses charged to departments —

	Service Depts.			Producing Depts.		
	1	2	3	1	2	3
Supplies	$ 1,590	$ 1,800	$ 3,750	$ 7,230	$ 8,820	$ 8,250
Depreciation	.....	5,040	1,500	18,000	24,000	30,000
Repairs	.....	5,340	1,200	2,700	3,600	4,800
Taxes — Payroll	960	1,920	1,800	2,520	2,760	4,200
Compensation Insurance	450	900	750	2,550	2,820	3,750
Indirect Labour	13,200	36,000	21,000	9,000	9,000	24,000
Superintendence	10,800	12,000	24,000	18,000	24,000	21,000
	$27,000	$63,000	$54,000	$60,000	$75,000	$96,000

	Service Depts.			Producing Depts.			
	1	2	3	1	2	3	Total
Percentage of Power and Light used	.....	15%	8%	19%	26%	32%	100%
Time spent by Service Dept. No. 2 in hours	.....	.....	5,600	11,200	16,800	22,400	56,000
Number of requisitions handled by storeroom	.....	16,800	4,200	58,800	37,800	92,400	210,000
Floor space occupied (in square feet)	15,000	45,000	30,000	45,000	69,000	96,000	300,000
Direct Labour Costs	.....	.....	.....	$36,000	$42,000	$60,000	$138,000
Time spent by Service Dept. No. 3 in hours	.....	.....	.....	2,400	2,400	7,200	12,000

The cost of power and light for the year was $15,000.

The cost of building taxes, fire insurance, and heat was $60,000.

REQUIRED:

(a) Calculate the actual departmental overhead rates for the year to compare with predetermined rates used throughout the year.

(b) Assuming the company has an inventory of finished goods on hand at the fiscal year end, state what adjustment is necessary, in view of your calculations under (a) above.

SOLUTION TO QUESTION IV

(a) Gray Manufacturing Company

Statement of Allocation of Manufacturing Expenses

for the year ended .....

	Service Departments			Producing Departments			
	No. 1	No. 2	No. 3	No. 1	No. 2	No. 3	Total
Direct Expenses	$27,000	$63,000	$54,000	$60,000	$75,000	$96,000	$375,000
Power and Light		2,250	1,200	2,850	3,900	4,800	15,000
Building Taxes, Insurance, Heat and Light	3,000	9,000	6,000	9,000	13,800	19,200	60,000
Allocation of Storeroom (No. 1)	30,000	2,400	600	8,400	5,400	13,200	.....
Allocation of No. 2		76,650	7,665	15,330	22,995	30,660	.....
Allocation of No. 3			69,465	13,893	13,893	41,679	.....
Total Costs				109,473	134,988	205,539	450,000
Direct Labour Costs				36,000	42,000	60,000	
Percentage of Direct Labour Costs				304.1%	321.4%	342.6%	

(b) All rates as calculated are lower than the arbitrary rates used during the year. Assuming the plant is operating at normal capacity, it would be proper to revalue the finished goods inventory, by reducing the inventories to the extent of the difference between the respective actual and predetermined rates.

COMMENTS

This problem was well answered by the students.

QUESTION V (12 marks)

From the facts given below, construct the following ledger accounts as of July 31st:

1. Materials
2. W.I.P. Materials
3. W.I.P. Labour
4. Finished goods
5. W.I.P. Manufacturing Expense
6. Manufacturing Expense Control

(a) Inventories, July 1:

Materials	$1,200	Finished goods	$2,000
Materials in process	460	Productive labour	350
Manufacturing expense	124		

(b) Manufacturing expense applied for July, $423.
(c) Material returned to stores from factory, $35.
(d) Total debit footing of *work-in-process — material account, $4,235.
(e) Total W.I.P. Labour column in voucher register, $800.
(f) Value of Labour in completed Production during July, $750.
(g) Total debit footing of W.I.P. Materials account, $3,260.
(h) Inventory of W.I.P. manufacturing expense, July 31, $125.
(i) W.I.P. Materials, July 31, $500.
(j) Cost of goods sold for July, $4,000.
(k) Factory expenses for July under applied, $15.

SOLUTION TO QUESTION V

LEDGER ACCOUNTS

Materials

(a)	Inventory	$1,200		To process	$2,800
(c)	From process	35		Inventory	1,435
	Purchases	3,000			
(d)		$4,235			$4,235

Work-in-Process Materials

(a)	Inventory	$ 460	(c)	To materials	$ 35
	From materials	2,800		To finished goods	2,725
			(i)	Inventory	500
(g)		$3,260			$3,260

Work-in-Process Labour

(a)	Inventory	$ 350	(f)	To finished goods	$ 750
(e)	Payroll	800		Inventory	400
		$1,150			$1,150

Work-in-Process Manufacturing Expense

(a)	Inventory	$ 124		To finished goods	$ 422
(b)	Monthly burden	423	(h)	Inventory	125
		$ 547			$ 547

Finished Goods

(a)	Inventory	$2,000	(j)	Cost of goods sold	$4,000
	Goods made	3,897		Inventory	1,897
		$5,897			$5,897

Manufacturing Expense Control

	Voucher Register	$ 438	(b)	Monthly burden	$ 422
			(k)	Inventory	15
		$ 438			$ 438

Computation of Value of Finished Goods Produced:

Materials (from the account in process)	$2,725
Labour (from f)	750
Burden (from Manufacturing Account)	422
Charge Finished Goods Account	$3,897

COMMENTS — **A. V. Harris, C.A., R.I.A.**

The wording of this question on the examination paper was slightly faulty, in that under item (d) the caption *"Work in Process" had been inadvertently left in the problem. The problem was very simple, and this should not have caused the students undue hardship. It was the examiner's opinion that the error did not cause any difficulty to those who understood the journal entry procedure for assembling costs. It very effectively separated those who knew their journal entry accounting and those who did not.